JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION (JOFOC) NNJ11HD58P

1. **This document is a justification for other than full and open competition prepared by the NASA Johnson Space Center.**

2. **The nature and/or description of the action being approved:** This justification provides the rationale for contracting by other than full and open competition for the acquisition of custom transformers, inductors, and chokes to be built and applied for testing and evaluation on engineering prototype units.

3. **Description of the supplies or services required, include an estimated value:** This procurement is for custom transformers part number 5T8028 and 5T8030, custom inductors part number 5T8029 and 5T8036, and custom common mode choke part number 5T8037. The total estimated cost of this effort is $213,380.00 and the estimated period of performance or lead-time for delivery is 14 to 16 weeks ARO.

4. **Statutory authority permitting other than full and open competition:** This procurement action is requested in accordance with FAR 6.302-1, only one responsible source and no other supplies or services will satisfy agency requirements.

5. **A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited:**

   Competition is impracticable for the following reasons:

   The International Low Impact Docking System (iLIDS) Project requires that custom transformers, inductors, and chokes be built and applied for testing and evaluation on prototype units, as no EEE approved transformers exist, at present, that satisfy the requirements for power, droop, regulation, and inductance necessary to provide good signal integrity for the iLIDS load cell excitation signal.

   The performance requirements for the custom transformer, part number 5T8028, are a primary DC resistance of less than 0.70 ohms, a secondary DC resistance of less than 0.08 ohms, a maximum output power of 100 watts, and a working voltage of 150V at 27 KHz. The performance requirements for the custom transformer, part number 5T8030, are a primary DC resistance of less than 0.25 ohms, a secondary DC resistance of less than 0.005 ohms, a maximum output power of 700 watts, and a working voltage of 150V at 27 KHz. The performance requirements for the custom inductor, part number 5T8029, are a primary DC resistance of less than 0.04 ohms, a primary inductance of 560uH +/- 20 @ 0.5V, a maximum of 6 amps RMS, and a working voltage of 150V at 27 KHz. The performance requirements for the custom inductor, part number 5T8036, are a primary inductance of 1mH, and a maximum of 12 amps RMS. The performance requirements for the common mode choke, part number 5T8037, are a primary inductance of 12mH, and maximum of 12 amps RMS. Custom transformers, inductors, and chokes are needed since no EEE approved transformers exist, at present, that satisfy the requirements for power, droop, regulation, and inductance necessary to provide good signal integrity for the iLIDS load cell excitation signal. Furthermore, these parts were previously qualified for purchase via competitive procurement procedures on NNJ11HB11P.

   a. These components have been integrated into iLIDS avionics assemblies, tested, and found to be suitable for the further development of the iLIDS avionics.

   b. Acquisition from any other source would necessitate repeating qualifying work already performed, which is not in the best interest of the Government.

6. **Description of the efforts made to ensure that offers are solicited from as many potential sources as practicable:** A government wide point of entry (GPE) notice was publicized, as required by Subpart 5.2, on August 25, 2011.

9/2/11

Initial Date

7. **Description of the market survey conducted, and the results, or a statement of the reasons a market survey was not conducted:**
A market survey was performed for the required parts via competitive procurement NNJ11HB11P. The results showed two vendors qualified, Rayco Electronics and Torotel. Torotel was unable to provide flight components in a manner consistent with the schedule based on their quote, therefore, the procurement was awarded to Rayco Electronics. The parts were tested and found to be satisfactory for use as the excitation transformer on the ILIDS load cell board, which was evaluated and tested on the prototype unit. The research and development phase is over, and this procurement is to purchase parts that will be assembled in the engineering development unit.

8. **Other facts supporting the use of other than full and open competition:**
At present, no EEE approved transformers exist that satisfy the Agency's requirements for power, droop, regulation, and inductance necessary to provide good signal integrity for the iLIDS load cell excitation signal. Therefore, custom parts, and the associated testing of said custom parts, are required prior to the assembly of an engineering development unit. This procurement, which will purchase previously tested and approved parts, is for the assembly of an engineering development unit. In order to avoid duplicated costs and efforts, it is in the Government's best interest to award to Rayco Electronics.

9. **Sources, if any, that expressed an interest in writing in the acquisition:** A response to the synopsis was received from The Mesa Electronics Group, LLC on August 28, 2011. Upon a detailed review of the company's website, no references to aerospace production of transformers and inductors or qualification to MIL-PRF-27 were found. Furthermore, three attempts to email the point of contact all resulted in returned/'bounced' emails. Therefore, the Government has determined this inquiry to the synopsis to be unresponsive, and this procurement is proceeding as originally planned with a sole source award to Rayco Electronics.

10. **The actions, if any, the agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required:** The Agency will attempt to overcome barriers to competition by continual analysis of alternate products in the market as they come available.

Custom transformers, inductors, and chokes

Technical Officer: I certify that the supporting data presented in this justification are accurate and complete.

James Lewis — Date 9/21/11

Contracting Officer: I hereby determine that the anticipated cost to the Government will be fair and reasonable and certify that this justification is accurate and complete to the best of my knowledge and belief.

Wendy Crisman — Date 9/16/11